

**SYSTEM AND METHOD FOR PROVIDING CONCURRENT DATA
TRANSMISSIONS IN A WIRELESS COMMUNICATION NETWORK**

ABSTRACT OF THE DISCLOSURE

5 A system and method is disclosed for providing concurrent data transmissions in a wireless communication network. The invention comprises a register unit within a base transceiver station that prepares data packets to be transmitted to mobile stations within a plurality of cell sectors. The register unit identifies the cell sector destination of each data packet in a first data call and sends the data packet to a buffer associated with the cell sector destination. The buffers store their respective data packets for each cell sector in a first subframe of a data frame. The buffers send their respective data packets within the first subframe to their respective antennas. The data packets for each cell sector are then concurrently transmitted during the first subframe. Data packets of a second data call are transmitted during the second and third subframe so that two data calls are concurrently transmitted.

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